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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/484,650	01/18/2000	Thomas Ahrndt	P99.2498	9932

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EXAMINER
VOLPER, THOMAS E

ART UNIT	PAPER NUMBER
2697	14

DATE MAILED: 07/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/484,650	AHRNDT ET AL.	
	Examiner	Art Unit	
	Thomas Volper	2697	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 May 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 6 May, 2003 have been fully considered but they are not persuasive.

The Examiner disagrees with Applicant that claims 1 and 5, and the dependent claims 2-4, are patentable over Nimmagadda (US 6,426,961) in view of Yamano et al. (US 6,075,814) ("Yamano"). Applicant asserts that Yamano fails to disclose operating only those parts of a high-bit-rate data transmission device used to evaluate a criterion indicating the beginning of a transmission at a telephone exchange side (page 7 of Amendment A). However, Yamano discloses that modems at both the subscriber side and central office may implement the reduced processing capability of the exemplary receiver circuit (col. 19, lines 10-13). Applicant also asserts that Yamano discloses detecting the absence of data transmission, rather than the beginning of a data transmission as in the present invention (page 7 of Amendment A). The Examiner holds that Yamano discloses evaluating criterion signaling the beginning of a data transmission as well as detecting the absence of data transmission that places the receiver circuit into standby mode. Specifically, Yamano discloses that if the comparator (317) determines that a soft symbol does not correspond with an expected idle signal, an EXIT_STANDBY signal is asserted (col. 10, lines 14-20). This provides for evaluating a criterion that signals the beginning of a data transmission. The Applicant has failed to overcome the rejection of claims 1-5 of Nimmagadda (US 6,426,961) in view of Yamano et al. (US 6,075,814), thus this action is deemed final.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 6 and 8-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamano et al. (US 6,075,814).

Regarding claims 6, 10 and 12, Yamano discloses a high-bit-rate device at a subscriber side (1001) and a high-bit-rate device at a telephone exchange (1004) connected by a high-bit-rate connection (1012). The system operates in accordance with a conventional modem protocol, such as xDSL (col. 7, lines 17-20). A non-idle signal detector (401) in receiver circuit (400) detects an easily detected signal, such as a pure tone, which is used to signal the presence of packet data. This enables the full processing mode of receiver circuit (400) (col. 14, lines 13-42). The pure tone of the easily detected signal represents the pilot tone of the present invention. In addition, Yamano discloses that each of the modems (1001) and (1004) may implement the features of the receiver circuit (400) (col. 19, lines 10-13).

Regarding claim 8, Yamano discloses that the receiver circuit receives a continuous analog signal. The receiver circuit monitors this continuous analog signal (col. 3, lines 44-54).

Regarding claim 9, Yamano discloses that the non-idle detector (401) may periodically be enabled during predetermined time intervals (col. 15, lines 26-32).

Regarding claims 11 and 13, Figure 4 shows a resampler (302) and an equalizer (303), which are both digital signal processing components.

Regarding claim 14, Yamano discloses a reduced processing mode used during the absence of the easily detected signal on the communication channel (col. 14, lines 29-42)

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nimmagadda (US 6,426,961) in view of Yamano et al. (US 6,075,814).

Regarding claims 1 and 5, Nimmagadda discloses an ADSL system (Fig. 5) in which a subscriber uses a computer (30) and an ADSL modem (28) for use with ADSL system (106). An ADSL system makes use of twisted pair wiring to provide voice service and data service (col. 1, lines 19-25). The ADSL system also includes, at the other end of the subscriber voice and data line, a central office switch (16) connected to a PSTN (108). The ADSL system also includes an ADSL modem (18) at the telephone switch side that connects to an ISP (108) for connection to the Internet. Fig. 5 demonstrates that the core region of the telephone switch can be bypassed by sending data traffic through modem (18) to the ISP. This ISP represents the access device of the present invention. Nimmagadda does not expressly disclose that the ADSL modem (28), which meets the limitation of a high-bit-rate data transmission device, operates only those parts of the

device that evaluate a criterion indicating a beginning of data transmission outside the context of data transmission, and operating the remaining parts when a beginning of a data transmission is indicated. Yamano discloses a receiver circuit (300) of a modem. The signal received on communication channel (321) of the receiver circuit (300) is a signal in accordance with conventional modem protocol, such as xDSL (col. 7, lines 17-25). The circuit (300) includes a framer/idle detector (307) that monitors the digital bit stream to determine if it is in an idle state, or a data state, i.e. the digital bit stream is representative of packet data (col. 8, lines 36-47). The analog received signal is sampled by an analog to digital converter and converted to a digital signal (col. 7, lines 26-8). This digital bit stream representing either data symbols, or idle symbols is eventually passed to the framer/idle detector (307) (col. 8, lines 26-34) where a decision is made to enter a standby mode, or exit standby mode. Yamano discloses that when the receiver circuit enters standby mode certain parts of the device are disabled, while others act in a reduced processing capacity (col. 9, lines 31-53). The device returns all parts to full processing capability when an incoming symbol is not representative of an idle symbol. More specifically, when comparator (317) determines that a soft symbol does not correspond with an expected idle symbol, the EXIT_STANDBY signal is asserted (col. 10, lines 14-25). This meets the limitation of evaluating a criterion indicating a beginning of a data transmission. Furthermore, the Yamano discloses that the reduced processing capability of the receiver circuit (300) may also be implemented in analogous receiver circuit (400) in another embodiment of the invention (col. 13, line 48 – col. 14, line 42). In addition, the receiver circuit operating in accordance with this other embodiment of the invention may be implemented in each of modems (1001-1004) (col. 19, lines 10-13). Figure 7 shows modems (1001-1003) at a subscriber side

(1010) and modem (1004) at a central office (1011). This meets the limitation of a high-bit rate data transmission device that operates only those parts of the device that evaluate a criterion indicating a beginning of a data transmission at both the subscriber side and telephone exchange side. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the receiver circuit of Yamano in the ADSL modems (18) and (28) of Nimmagadda so that the modems would only be acting in full capacity when high-bit-rate data was being transmitted on the subscriber line. One of ordinary skill in the art would have been motivated to do this to provide efficient processing and to reduce power consumption by the modem.

Regarding claim 2, see aforementioned teaching regarding claim 1.

Regarding claim 3, see aforementioned teaching regarding claim 1. Additionally, Yamano discloses that the receiver circuit receives a continuous analog signal. The receiver circuit monitors this continuous analog signal (col. 3, lines 44-54).

Regarding claim 4, see aforementioned teaching regarding claim 1. The teaching of Nimmagadda in view of Yamano et al. above discloses an a/d converter for converting the analog signal to digital. As is well known in the art the operation of an a/d converter requires sampling an analog signal at regular intervals. Thus, the detector (307) is detecting symbols in a bit pattern that is a sampled representation of the analog signal.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamano et al. (US 6,075,814) as applied to claims 6 and 8-14 above, and further in view of Wallace et al. (US 6,353,628).

Regarding claim 7, Yamano discloses digital signal processing components such as resampler (302) and equalizer (303) that are switched on after detection of a pilot tone (col. 14, lines 29-42). Yamano also discloses an analog to digital converter, A/D (301), which comprises the analog and digital interfaces of claim 7. In order for data transmission to occur after detection of the pilot tone, this A/D converter would have to be switched on so that the receiver could process the incoming signal. Yamano fails to expressly disclose a line driver that is switched on after detection of a pilot tone. Wallace discloses that line terminating equipment (LTE) typically comprises a line driver that is coupled to a voltage supply and arranged to amplify signals to be applied to a wireline resource in a DSL communication system (col. 4, lines 31-37). Wallace also discloses that the line driver is re-enabled after coming out of a dormant mode due to inactivity (col. 8, line 43 – col. 9, line 14). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to provide a line driver in the system of Yamano, and to switch this line driver into an operative state upon detection of a pilot tone. One of ordinary skill in the art would have been motivated to do this in order to make sure data transmissions in the system would be sent with enough power to be successfully transmitted to a receiving circuit.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication, or earlier communications from the examiner should be directed to Thomas Volper whose telephone number is 703-305-8405 and fax number is 703-746-9467. The examiner can normally be reached between 8:30am and 6:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached at 703-308-6602. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

tev

July 22, 2003